THE NEWSLETTER FOR SCIENCE COMMUNICATION IN INDIA & ABROAD

Capsule 15

OCT
DEC
1989

a new science centre in lucknow

Parallel to the Regional Science Centre in Bhubaneswar, Orissa, (Reported in CAPSULE-14), the first science centre in the State of Uttar Pradesh is also complete. On September 7, 1989, the Centre was opened for the people by Shri N. D. Tewari, Hon'ble Chief Minister of Uttar Pradesh, in the presence of Smt. Krishna Sahi, Union Minister of State for Culture, Govt. of India.

It took NCSM about four years to complete this project with a building of 4000 square metres in the first phase, and a large Science Park over a land of five and half acres, at a total outlay of Rupees two crores. This science centre in Ekta Vihar, Aliganj Extension, has emerged as a major attraction in the city of Lucknow.

On enternig the reception lobby of the Science Centre, a visitor is greeted by 'Aquamobile', the 1000 square feet giant exhibit, possibly the first of its kind anywhere in the world. Press a switch to set in flow some coloured water that turns turbine wheels, forms a lens, creates vortex, sets in action many syphons and fountains, and performs like a virtuoso acrobat in a circus, itself

Dr. Saroj Ghose, Director General of National Council of Science Museums explaining the 'Archimedian Screw' exhibit to the dignitaries.

taking myriad shapes in the process. In a similar way one can move through the other exhibits, exploring, discovering, and experiencing the mysteries of fluids in this Regional Science Centre.

The centre has four exhibition halls out of which one has been designated as 'Fluidics', representing the mechanics of fluids. Over one hundred interactive, hands-on exhibits, many utilising electronic and microprocessor control, explain and elucidate topics related to fluids. Here are explained, beyond all misnomers,

(Continued in Page 8)

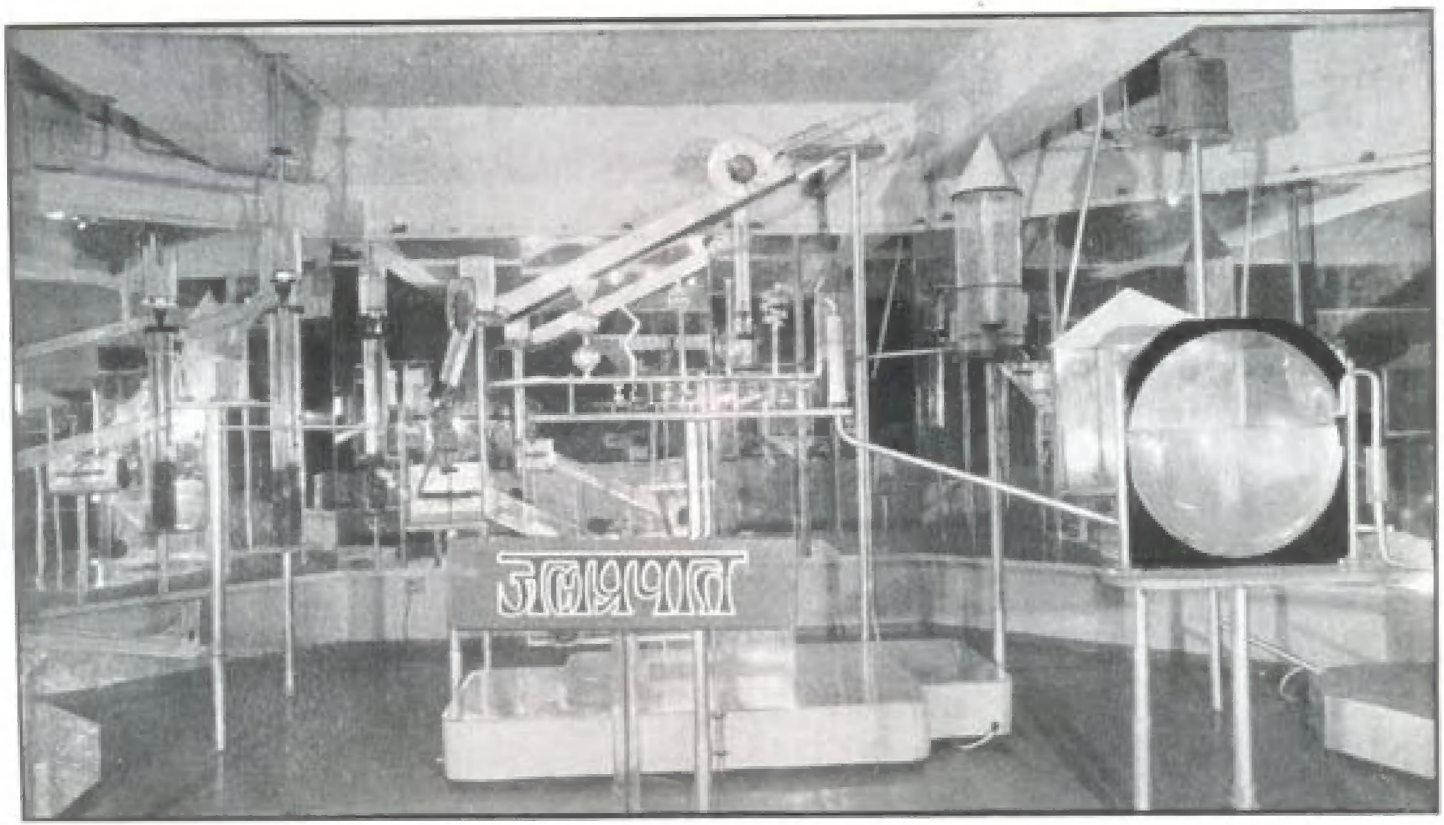
NCSM SPEAKS

Award for Dr. Saroj Ghose

Hari Om Ashram Trust Award for interaction between science and society has been awarded this year to Dr. Saroj Ghose, the Director General of National Council of Science Museums, as announced by the University Grants Commission of India on 17th July at Delhi. He has also received the Platinum Jubilee Award of the Indian Science Congress for 1990.

Earlier this year Dr. Ghose was awarded 'Padmashree' for popularisation of science in the country. He has also been the recipient of 'Indira Gandhi' Award of the Indian National Science Academy for popularisation of science in 1988.

Dr. Ghose has developed a chain of science museums and centres at Calcutta, Bangalore, Bombay, Delhi, Bhubaneswar, Lucknow and other places. Presently he is working for developing 1000 School Science Centres all over the country in the next five years.



Aquamobile—the 'never before' exhibit.

NCSTC FELLOWSHIPS

To promote and improve science & technology communication in the country NCSTC (National Council for Science & Technology Communication, Govt. of India) has initiated a fellowship programme on an experimental basis. The main objective here is to increase the number of good and effective S&T communicators in the country. Under this programme, interested individuals working in scientific and technological organisations in the country, with inclination to and interest in S&T communication, will be enabled to spend time (upto 2-3 weeks) in mass media organisations. On the other hand, individuals working in mass media organisations with interest in S&T communication, will be enabled to spend time in scientific and technological organisations, through short-term fellowships.

For more information and a pamphlet on this scheme NCSTC may be contacted directly.

THE NATIONAL INFORMATION CENTRE FOR FOOD SCIENCE AND TECHNOLOGY, MYSORE

Set up in October, 1977 at the Central Food Technological Research Institute, Mysore, NICFOS is one of the Sectoral Information Centres under the NISSAT Scheme of the Govt. of India, Dept. of Science & Technology.

CFTRI, established in 1950, is one of the premier institutions under the Council of Scientific & Industrial Research, Govt. of India. It is recognized nationally and internationally as a centre of reference.

The objectives of NICFOS are :

a) to provide information services to food industry, R & D organizations, and institutions specialising in food science and technology, and government agencies concerned with planning, production, testing, standardization, quality control and marketing of foods ;

b) to function as a clearing house for information on all aspects of food science & technology ;

c) to collaborate with other similar information systems in the country and abroad.

TAMIL NADU SCIENCE AND TECHNOLOGY CENTRES, MADRAS

The Tamil Nadu Science and Technology Centres, is an autonomous body established by the Government of Tamil Nadu with a common goal to develop scientific attitude and thinking in the younger generation by encouraging curiosity and questioning process ; by creating a scientific and natural environment to inculcate an ability to identify the problems and work towards an appropriate solution ; and to collect and disseminate on demand, information relating to science and technology.

As a part of the activities, a Planetarium which is a great boon to research scholars on Astronomy, Astrophysics, Space Science etc., with a seating capacity of 236 persons, was dedicated to the nation in May, 1988 for the benefit of general public and students' community.

A Science Park, beautifully landscaped and laid-out with participatory type of exhibits for the purpose of fostering scientific temper among general public was declared open on August 26, 1988.

The construction work of the first phase with eight galleries has already been completed and efforts are being made to occupy the first four galleries on Transportation, Electronics and Communication, Physical Science and Children's Corner with mostly interactive exhibits.

Inset-top : The building.
Middle : The new Science Park.
Inset-bottom : The emphasis is on participatory and interactive exhibits.

National Science Seminar—1989
on
Atomic Energy : Potentialities and Hazards
October 8, 1989.
Venue : Visvesvaraya Industrial & Technological Museum
Bangalore.
Organised by :
National Council of Science Museums
in collaboration with Education Departments of State Governments of India.

IVth Convention of the
Indian Association of Physics Teachers (IAPT)
October, 1989
Venue : Government Science College,
Raipur, Madhya Pradesh

International Conference on
Environmental Education
October 3,1989
Venue : Goa
Organised by :
UNESCO (ROSTSCA)

Regional Training Course on
Microcomputer Based Applications of Statistical Programme Packages for Environmental Scientists of South and Central Asia
December 4,1989
Venue : Calcutta
Organised by :
UNESCO (ROSTSCA)

Seminar on
Creativity Programmes in Science and Engineering Education
November 18, 1989
Venue : Calcutta
Organised by :
Institute of Science, Education and Culture, Calcutta

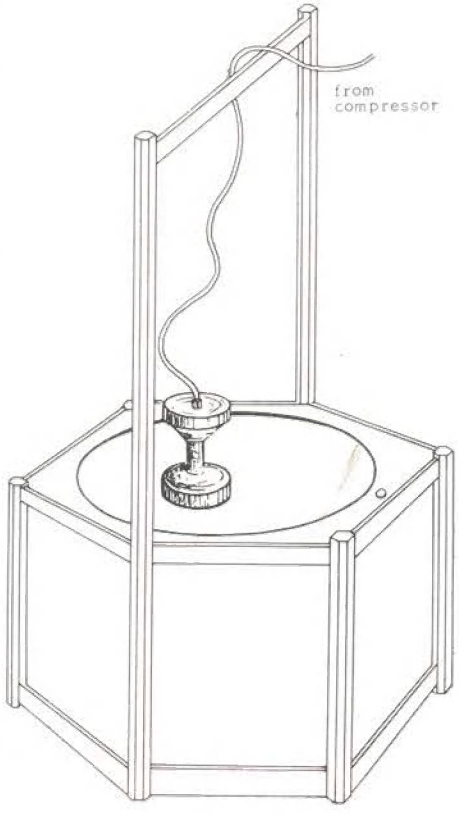
Seminar on
Effective Management of Technical Institutions
November-December, 1989
Venue : IIT, Kharagpur
Organised by .
Department of Industrial Engineering Management,
IIT Kharagpur, West Bengal

Workshop on
Energy Conservation
December, 1989
Venue : Calcutta
Organised by :
Indian Institute of Metals, Calcutta

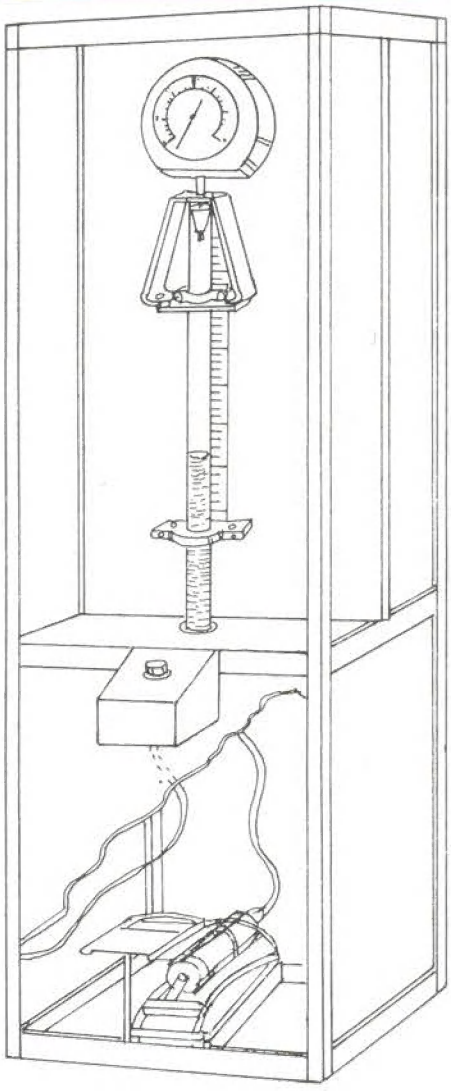
Developed at Nehru Science Centre in Bombay, these exhibits are the playful embodiments of certain principles of physics. These two exhibits, along with many others, will adorn the 'UMBRELLA' gallery (it is about the atmosphere that surrounds us) of the newly established Raman Science Centre in Nagpur.

AIR CUSHION

A dumbell-shaped electroplated block of mild steel, weighing about 15 kgs. and having an axial through hole in it is placed on the rubber-sheet platform. Air from a compressor can be forced through this hole by means of a rubber tube. When the compressor is not 'on', it needs great effort to slide the heavy block over the rubber surface, due to a high degree of friction working between the bottom surface of the block and the base. As soon as the compressor is switched on, a thin air cushion is formed between the bottom of the block and the base, making the sliding effortless.



PRESSURE AND VOLUME



A 4" dia glass tube is mounted vertically with a pressure gauge at the top and the bottom end connected to a liquid tank behind the exhibit by a rubber tube. The tank is placed at such a height that liquid fills half of the glass tube. A scale by the side of the tube reads the volume of air in the top half of the tube. A foot operated air pump mounted at the bottom of the exhibit is connected to the liquid tank.

When the air pump is activated, the liquid column in the glass tube rises, compressing the air column in the glass tube. Readings by the scale and the pressure gauge, when compared to the initial readings, verify Boyle's Law which states that for any gas, mass and temperature remaining unchanged, the pressure varies in inverse proportion with volume ($P \propto 1/V$).

NATIONAL STUDENTS' SCIENCE SEMINAR, 1989

A major annual event of NCSM, organised in collaboration with the State Education Departments, this Seminar has a kind of multi-tier, pyramid-like system : on a given topic of national relevance, thousands of students all over India start interacting at Block level, and gradually go up to the National level, through the successive stages of District and State level contests.

All the constituent science museums and centres of NCSM in different parts of the country took part as usual, to organise the District level and State level seminars, in a well co-ordinated way. 'Atomic Energy-Potentialities and Hazards' is the topic of the year given to the school students to deliberate on, and it got thousands of young thinkers all over the country into involved, intimate and nevertheless critical discussions. It is always interesting to observe them—so young, yet so reflective.

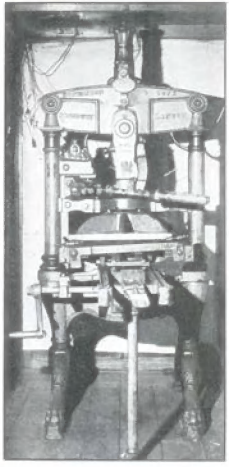
Winners from the State level contests, representing all the States and Union Territories of India will assemble at Visvesvaraya Industrial & Technological Museum in Bangalore on October 8, 1989 for the final round of interaction in the Seminar.

DELVING INTO THE PAST

This London made Hopkinson & Cope printing machine has a history behind it, which is as interesting as its looks or its baroque styling.

On February 20, 1868 a Bengali Weekly named Amrita Bazar Patrika rolled out of this machine, which was then situtated in a remote village in Jessore, now in Bangladesh. It was the heyday of Bengal Renaissance. In 1871 the machine was shifted to Calcutta, along with the Patrika Establishment. In March 1878 Amrita Bazar Patrika turned to be an English Weekly, to avoid the repressive Vernacular Press Act. In February 20, 1891 the Patrika became an English Daily and this is still continuing. Starting with the first issue of the Patrika this machine was operational presumably till 1930s. The Newspaper printed in this machine had a seminal role in the Indian Independence in 1947. The vermillion mark on the machine is the sign of its venerabitily, according to Hindu tradition.

Donated to NCSM by the Amrita Bazar Patrika, this old workhorse will now onward adorn the Information Revolution Gallery in National Science Centre, Delhi.

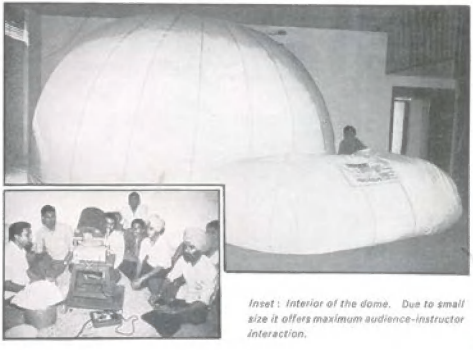


ASTRONOMY EDUCATION REACHES GRASSROOT LEVEL

With the objective of taking basic astronomy education to rural doorsteps, NCSM introduced in India the portable, inflatable planetarium system or TARAMANDAL, about a couple of years back.

Through a grant from National Council of Science & Technology Communication, the Council of Science & Technology of Punjab has procured recently from NCSM 12 such planetaria for use in schools of its 12 districts. 27 teacher-representatives of the schools received training in this regard at Central Research and Training Laboratory of NCSM during July, 24-29, 1989.

Five more planetaria moved out to a variety of places like Patiala, Rajasthan, Karseong, Manipur and Delhi. Training for the concerned users was held during August 28 —September 2, 1989, at CRTL in Calcutta.



Inset : Interior of the dome. Due to small size it offers maximum audience-instructor interaction.

PROJECT SCHOOL SCIENCE CENTRE

Fabrication technique is a major part of teachers' training.

NCSM's plan is to help, during the 8th Plan Period, 1000 schools in the country to set up their own science centres, for developing creative abilities in their students. These nucleus science centres are envisaged to be of self-generating status, and NCSM's role is largely of catalytic support.

The project saw its first implementation in the State of Madhya Pradesh where 53 school science centres have started functioning, after the leader-teachers of the schools had been given training by NCSM during January-March, 1989.

Leader teachers of 30 schools in West Bengal had undergone training in two batches at Central Research and Training Laboratory of NCSM, during June 5-17, and June 23-July 08, 1989. With kits and tools given to them from NCSM, science centres in most of the schools have started functioning.

Teacher-representatives of six schools in Tripura received training at Agartala during August 5-19, 1989.

Programme is ahead for initiating training for 16 schools in Manipur during September and three schools in Orissa during November this year.

CELEBRATION AT DHARAMPUR

The fifth anniversary of the District Science Centre, Dharampur, in Gujarat, fell on April 27, 1989, and was celebrated through a plethora of programmes involving different sections of the local populace. Events included in the programme were—

- Demonstration on food and nutrition
- Solar cooker demonstration
- Special film show
- Sky observation programme
- Special demonstration on flower making
- Art competition

Various agencies and organisations like Community Canning Centre, Department of Food Processing, and Department of Information, Gujarat, and Family & Child Welfare Project Office of Dharampur collaborated with the District Science Centre to make the celebrations successful.

MUSEOBUS IN BHOPAL

Madhya Pradesh has now been brought into the mobile science exhibition network of NCSM.

In keeping with the concept of Science Museum Without Walls, NCSM has launched a museobus in Bhopal, as a prelude to the Regional Science Centre which is under establishment at E-3/3 Area Colony in Bhopal. In a function at the Regional Research Laboratory, Bhopal, Dr. L. P. Khare, Minister of Science & Technology, Government of Madhya Pradesh, inaugurated on July 18, 1989 the museobus and the Mobile Science Laboratory of M P Council of Science & Technology.

Dr. S Varadaraian, Chairman of the Governing body of NCSM presided over the function with a lecture on "Perspectives of Chemical Technology."

This mobile exhibition unit on 'Environment' is expected to tour extensively through the central part of India and conduct series of science education programmes for school students as well as for the adults. Along with the interactive exhibition mounted on the bus, the unit will also carry science films and materials to conduct teacher workshops, for developing teaching aids. It is also expected to monitor the functioning of the newly opened school science centres on its route.

Inset : Inauguration of the Museobus. Above : The dignitaries having a look at the exhibits inside the Museobus.

NEW RESPONSIBILITIES FOR INDIAN SCIENCE MUSEUM PROFESSIONAL

Dr Sanoj Ghose, Director General of National Council of Science Museums and the Chairman of the Indian National Committee For ICOM has been elected as a Member of the Executive Council of the International Council of Museums after receiving the maximum number of votes in the General Assembly of ICOM held in The Hague on September 5, 1989. Before coming to this apex body of ICOM, Dr Ghose served various international committees during last 21 years. He was in the Executive Board of CECA for six years as a Member and for another six years as its Vice-Chairman. He then served the Executive Board of CIMUSET for three years as a Member and then for the last six years as its Vice-Chairman.

Mr R M Chakraborti, Director of Nehru Science Centre in Bombay has been unanimously elected as a Member of the Executive Board of the International Committee on Museums of Science & Technology (CIMUSET) for the period 1989-92. The election comes as an international recognition of outstanding work done in development of science museum exhibits in Nehru Science Centre during last ten years.

Mr S K Bagchi, Director, Birla Industrial & Technological Museum, Calcutta, has been elected as a Member of the Executive Board of the International Committee on Education and Cultural Action (CECA) for the period 1989-92. The election comes as an international recognition of outstanding educational activities organised in BITM during last 25 years.

ICOM NEWS

The General Conference of the International Council of Museums (ICOM) along with its 73 National Committees, 23 International Committees and 8 Affiliated Bodies was held in The Hague during August 27—September 5, 1989. The theme of the Conference was "Museums : Generators of Culture", highlighting the futuristic role of museums in shaping and transforming the society for the welfare of mankind as opposed to the age-old belief that museums are merely projectors of ancient culture and store-house of past heritage.

NEW EXECUTIVE COUNCIL OF INTERNATIONAL COUNCIL OF MUSEUMS

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INDO-US WORKSHOP ON CHEMISTRY EXHIBITS

The next workshop for development of concepts for new science museum exhibits under the patronage of the Indo-US Sub-Commission on Education & Culture will be held in The Exploratorium and in the Lawrence Hall of Science, USA, during October 2-4, 1989. Six science museum professionals from India and 18 persons from the USA will participate in the workshop to work out the concept and design of exhibits on chemistry which is a dire need of science museums in current years. Details of this workshop will be published in the next issue of Curiosita.

ICOM ASIA-PACIFIC ORGANISATION COMES BACK TO INDIA

The erstwhile Asia Agency was set up in Delhi in 1966 by late Dr Grace Morley, the doyen of neo-museum movement in Asia. In 1983 the Agency was shifted first to Seoul and then to Tokyo with an extended mandate of covering the Pacific Ocean zone including Australia, New Zeeland and other island countries. With a very active support from the National Council of Science Museums, the Organisation is now shifted to Calcutta. Dr Sanoj Ghose has unanimously been elected the Chairman of the Governing Board of Asia-Pacific Organisation of ICOM. The other Members of the Board are :

Mr Tadashi Imamaru (Japan)
Mr Soichiro Tsuruta (Japan)
Prof David Ride (Australia)
Mr Vladimir A Nabatchikov (USSR)
Mr Bambang Sinemadiz (Indonesia)
Mr Kim Byung-mo(Republic of Korea)
Mr Gabriel S Casal (Phillipines)
Dr Enamul Haque (Bangladesh)
and a Member from the Chinese National Committee of ICOM.

The Agency will organize exposure-oriented training programmes, professional seminars and regional documentation centre for museum professionals in Asia and Pacific zone.

Utrecht Railway Museum, Netherlands

Meeting of ICOM Executive Council

IN LIGHTER VEIN.....

LUCKNOW

(Continued from Page 2)

the basic facts that fluids do not necessarily mean the liquids but include gases also, which are without definitive length or shape or rigidity. Solid matter constitutes a tiny part of the world, the rest is occupied by fluids. Great oceans and rivers cover about two-third part of our planet Earth. As a matter of fact, the Earth and all life on the Earth swim perpetually under an ocean of air.

You must have seen flowing rivers and those gigantic waterbodies called lakes and oceans, or much close-in, water taps in your home. Have you ever thought how water flows, or for that matter, how is the flow governed ? Consider the present day technological marvels like hydroelectric power stations or aircrafts or even the carlift in the roadside garage. They all use oil or water or air or other liquids and gases to generate essentia benefits for all of us. How are fluids harnessed ? Which laws govern their states and how are the laws established through our daily observations ?

Participatory and working exhibits in this 'Fluidics' gallery provide answers to all such natural queries. Concepts like static pressure in liquids, measurement of pressure, Toricelli's Theerem, Pascal's Principle, Archimedes' Principle, surface tension, Bernoulli's Principle, fluid friction, Cartesian diver and so on, are embodied three-dimensionally through the exhibits.

The second hall contains fully participatory exhibits, highlighting the fun element of science. Apparently quizzical and paradoxical as they may be in their manifestations, they reveal the basic premises of science only to a probing, questioning mind. Exhibit topics include themes like gravitation, pendulum, sound, motion, optical illusion, electricity, light, magnetism and mirrors. Here is also a computer corner with micro-computers, for imparting on a regular basis computer awareness programmes on young students and school teachers.

The third hall is for the exhibition, "Frontiers of Astronomy". Here graphic panels bring alive the mysteries of the Unknown and the story of man's longing to leave his cradle the Earth, and reach out to the 'Unknown'.

The fourth hall is designated for TARAMANDAL, for inflatable planetarium demonstrations and also for temporary exhibitions. The Centre opens with two fascinating exhibitions : one is "Entering Space", designed and developed by Birla Industrial and Technological Museum in Calcutta in collaboration with the United States Information Service and displaying the saga of space exploration by the U.S.A. The other is "25 Years of Space Photography", the informative exhibition of rare planetary photographs that NCSM brought to India from the U.S.A. in 1986.

The Children's Science Park, sprawling over an area of five and half acres, accommodates above 100 hands-on outdoor exhibits. Topics include motion, weightlessness, conventional and non-conventional energy, optics, sound, oscillation, inertia and so on. The Science Park also includes aviaries, a mammal corner, a rabbit cage, a picnic spot and a fair ground.

In actuality, the Centre is operational for quite some time, with various temporary exhibitions and programmes like observance of National Science Day, National Environment Awareness Campaign, World Environment Day and other topical events, involving thousands of local students, science enthusiasts, teachers, educationists and scientists.

The mobile science exhibition unit of the Centre on 'Food and Nutrition' which was pressed into service recently is bringing vast areas of Northern India into the mobile exhibition network of NCSM.

FUTURE RACE

THE NEXT

As a tribute to the memory of Professor C V Raman, NCSM has established the Raman Science Centre in Nagpur. Children's Outdoor Science Park and the Mobile Science Exhibition of the Centre are operational since April, 1987. Now the main building with its permanent exhibits being complete, the Centre is ready for inauguration.

CAPSULE—16 will give the details.

WE NEED

The Editor of CAPSULE is looking forward to your sending by October 31, 1989, publication materials for CAPSULE-16. Please send short notes, photographs, problems, suggestions, cartoons and puzzles.

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